Course Outline for Physics 232: Computational Methods of Physics

I. Philosophy of Course

Students should learn the most effective ways to use PCs to meet their needs. Emphasis will be on the following:

- Using the WWW and Internet as resources for research and collaborations
- Making appropriate choice of programming language, spread sheet, or math package for solving computational problems
- Exposure and practice in performing computer simulations and modeling
- Exposure and practice in interfacing computers to measuring devices

II. Course Goals

- Make students aware of inherent advantages and disadvantages of programming, spreadsheets, and math packages
- Make students aware of QuickBasic, Excel, and Mathematica
- Relate exercise when possible to Physics 221 and 222 problems and labs
- Require no more than a total of three hours per week of work from the student

III. Grades based on

- A log book of the student's errors and successes
- A collection of index cards listing the commands and addresses the student has learned
- In-class exercises
- Final report

IV. Schedule Overview

Week Number	Topic
1	DOS, Windows, Vincent
2	WWW and Internet
3-8	Spreadsheets, QuickBasic, Mathematica
9-10	Simulation and Modeling
11-14	Interfacing
15-16	Final Project